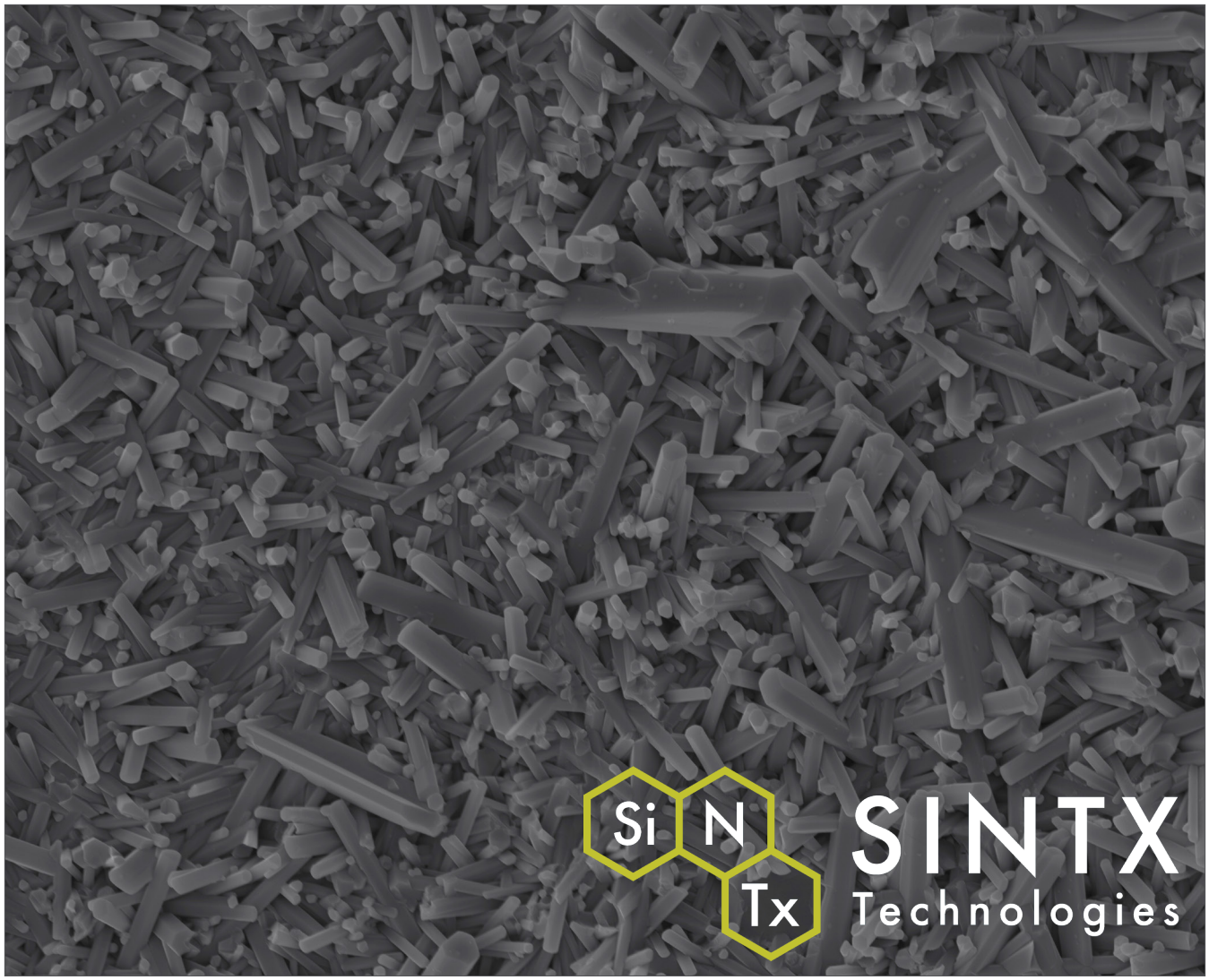
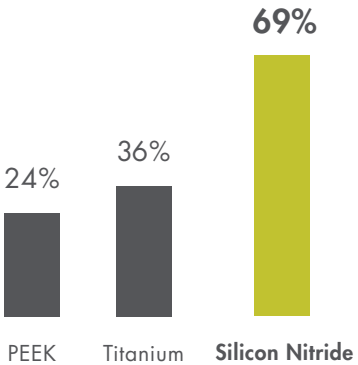


JUST THE FACTS



Percent of new bone around implant at 90 days[1]

In the race to achieve fusion, material matters. And no material fosters an environment for faster fusion like silicon nitride. Featuring the ability to achieve superior new bone growth and osseointegration[3], along with proven bacteriostatic properties[1,2] and enhanced imaging attributes[4], **silicon nitride outperforms PEEK and titanium*.**

ENHANCED OSTEOGENIC RESPONSE

The surface chemistry and natural nanotopography of silicon nitride provide an optimalenvironment for stimulation of osteoprogenitor cells todifferentiate into osteoblasts.

GREATER PROTEIN ADSORPTION

Silicon nitride demonstrates significantly greater protein adsorption (bronectin, laminin and vitronectin) in comparison to PEEK and titanium.[2]

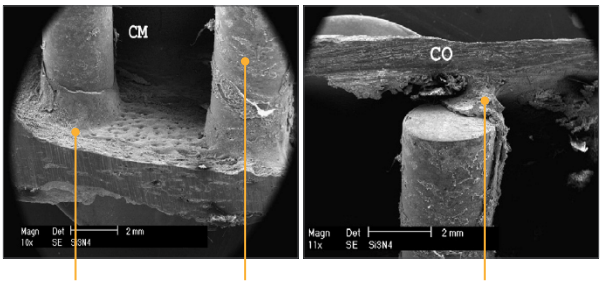
GREATER NEW BONE FORMATION

Silicon nitride implants demonstrate greater new bone formation at 3, 7, 14 and 90 days compared to PEEK and titanium; regenerated bone associated with silicon nitride implants is 2 to 3 times that of PEEK and titanium implants at 3 months after surgery.[1]

INCREASED OSSEOINTEGRATION

Silicon nitride implants demonstrate increased osseointegration at 3, 7, 14 and 90 days compared to PEEK and titanium; percent of bone at silicon nitride implant interface is 2 to 6 times that of PEEK and titanium implants at 3 months after surgery.[1]

Silicon Nitride Rods [3]



Cortical Bone *Trabecular Bone Remnants* *Bridging Bone*

DEMONSTRATED ANTI-BACTERIAL PROPERTIES

Silicon nitride inhibits bacterial colonization and biofilm formation. Silicon nitride demonstrates significantly lower biofilm formation at 4, 24, 48 and 72 hours as compared to PEEK and titanium; live bacteria (S. epidermidis, S. aureus, P. aeruginosa, E. coli and Enterococcus) associated with silicon nitride implants are 8 to 30 times lower than PEEK and titanium.[2]

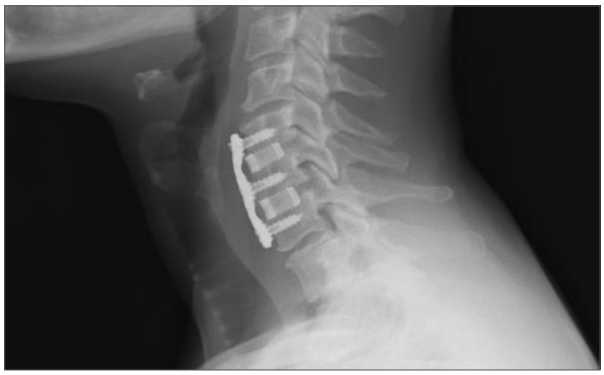
DEMONSTRATED BACTERIOSTATIC AGENT

No infection is observed with bacteria-inoculated silicon nitride implants at 3 months*, whereas both PEEK and titanium implants maintain a septic state. Silicon nitride demonstrates this property even in the absence of antibiotics.[1]

SUPERIOR IMAGING PROPERTIES

COMPATIBLE WITH ALL IMAGING MODALITIES[4]

Silicon nitride implants are semi-radiolucent with clearly visible boundaries, and produce no distortion under MRI and no scattering under CT; this enables an exact view of the implant for precise intraoperative placement and postoperative fusion assessment.



Radiographic image of two Valeo® II C silicon nitride implants.

CALL 855.839.3500 OR VISIT US AT SINTX.COM TO DISCOVER WHY MATERIAL MATTERS.

SINTX Technologies

REFERENCES

1. Webster TJ, Patel AA, Rahaman MN, Sonny Bal B. Anti-infective and osteointegration properties of silicon nitride, poly(ether ether ketone), and titanium implants [published online ahead of print July 31, 2012]. Acta Biomater.

2. Gorth DJ, Puckett S, Ercan B, Webster TJ, Rahaman M, Bal BS. Decreased bacteria activity on Si(3)N(4) surfaces compared with PEEK or titanium. Int J Nanomedicine. 2012;7:4829-4840.

3. C.C. Guedes e Silva, B. Konig Jr., M.J. Carbonari, M. Yoshimoto, S. Allegrini Jr., J.C. Bressiani Bone growth around silicon nitride implants – An evaluation by scanning electron microscopy - Sao Paulo, Brazil, Materials Characterization, Vol 59 (2008) pg 1339-1341

* Based on ***in vitro*** and animal study results.

1885 West 2100 South, Salt Lake City, UT 84119
855.839.3500 (toll free) | www.sintx.com